Notice of Allowability	Application No.	Applicant(s)	
	09/559,206	WONG, DANIEL MANHUNG	
	Examiner	Art Unit	
	Baoquoc N. To	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *09/02/2005*.

2. ☒ The allowed claim(s) is/are *1,3,5,7-9,11-13,15-17,19-21,23-26,28,31,32 and 34*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *09/02/2005* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

JEAN M. CORRIELUS
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. Claims 1, 3, 5, 7-9, 11-13, 15-17, 19-21, 23-26, 28, 31-32 and 34 are pending in this application.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Edward J. Grundler Reg. No. 47,615 on 09/02/2005.

Please amend these claims as follow:

Please replace claim 1 with;--"1. A computer-implemented method for selectively auditing accesses to a relational database, comprising:

receiving a query for the relational database;

selectively auditing an access to the relational database,

wherein selectively auditing the access involves automatically modifying the query prior to processing the query, wherein processing the query causes an audit record to be created and recorded only for rows in relational tables accessed by the query and satisfy an auditing condition,

wherein satisfying the auditing condition allows selective auditing of the query and not for other rows,

wherein the auditing condition specifies a condition based on a value of a field in a row in the relational database, and

wherein satisfying the auditing condition allows selective auditing of the query,

wherein if the query includes a select statement, inserting a case statement into

the select statement calling a function causing the audit record to be created and recorded if the auditing condition is satisfied,

wherein inserting the case statement into the query further comprises:

inserting the case statement into the query,

allowing a query processor to allocate buffer for the query,

removing the case statement from the query,

allowing the query processor to generate a query plan for the query,

scheduling the case statement near the end of the query plan to ensure the case statement is evaluated only after other conditions of the query are satisfied, so the auditing record is created only for rows actually accessed by the query;

processing the modified query to produce a query result, wherein processing the modified query includes:

creating the auditing records for rows in relational tables accessed by the query and satisfying the auditing condition;

recording the audit record in an audit record store; and

returning the query result.--

Please replace claim 3 with;--"3. The method of claim 1, further comprising ensuring the case statement is evaluated near the end of the query processing so the case statement is evaluated only after other conditions of the query are satisfied."--

Please replace claim 9 with;--"9. A computer-readable storage medium storing instructions to be executed by a computer causing the computer to perform a method for selectively auditing accesses to a relational database, the method comprising:

receiving a query for the relational database;

selectively auditing an access to the relational database,

wherein selectively auditing the access involves automatically modifying the query prior to processing the query, wherein processing the query causes an audit record to be created and recorded only for rows in relational tables accessed by the query and satisfying an auditing condition,

wherein satisfying the auditing condition allows selective auditing of the query and not for other rows,

wherein the auditing condition specifies a condition based on a value of a field in a row in the relational database, and

wherein satisfying the auditing condition allows selective auditing of the query,

wherein if the query includes a select statement, inserting a case statement into the select statement calling a function causing the audit record to be created and recorded if the auditing condition is satisfied,

wherein inserting the case statement into the query further comprises:

inserting the case statement into the query,

allowing a query processor to allocate buffer for the query,

removing the case statement from the query,

allowing the query processor to generate a query plan for the query,

scheduling the case statement near the end of the query plan to ensure the case statement is evaluated only after other conditions of the query are satisfied, so the auditing record is created only for rows actually accessed by the query;

processing the modified query to produce a query result, wherein processing the modified query includes:

creating the auditing records for rows in relational tables accessed by the query and satisfying the auditing condition,

recording the audit record in an audit record store, and

returning the query result."--

Please replace claim 1 with;--"11. The computer-readable storage medium of claim 9, wherein the method further comprises ensuring the case statement is evaluated near the end of the query processing so the case statement is evaluated only after other conditions of the query are satisfied."—

Please replace claim 17 with;--"17. An apparatus for selectively auditing accesses to a relational database, comprising:

a receiving mechanism configured to receive a query for the relational database;

a selective auditing mechanism configured to selectively audit an access to the relational database,

wherein selectively auditing the access involves automatically modifying the query prior to processing the query, wherein processing the query causes an audit record to be created and recorded only for rows in relational tables accessed by the query and satisfying an auditing condition,

wherein satisfying the auditing condition allows selective auditing of the query and not for other rows,

wherein the auditing condition specifies a condition based on a value of a field in a row in the relational database, and

wherein satisfying the auditing condition allows selective auditing of the query,

wherein if the query includes a select statement, inserting a case statement into the select statement calling a function causing the audit record to be created and recorded if the auditing condition is satisfied,

wherein inserting the case statement into the query further comprises:

inserting the case statement into the query,

allowing a query processor to allocate buffer for the query,

removing the case statement from the query,

allowing the query processor to generate a query plan for the query,

and scheduling the case statement near the end of the query plan to ensure the case statement is evaluated only after other conditions of the query are satisfied, so the auditing record is created only for rows actually accessed by the query;

a query processor configured to process the modified query to produce a query result, wherein processing the modified query includes:

creating the auditing records for rows in relational tables accessed by the query and satisfying the auditing condition;

recording the audit record in an audit record store; and

a returning mechanism configured to return the query result."—

Please replace claim 19 with;--"19. The apparatus of claim 17, wherein the query modification mechanism is configured to ensure the case statement is evaluated near the end of the query processing so the case statement is evaluated only after other conditions of the query are satisfied.

Please replace claim 26 with;--"26. A computer-implemented method for selectively auditing accesses to a relational database, comprising:

receiving a database operation for the relational database;

selectively auditing an access to the relational database based on an auditing condition, wherein the auditing condition specifies a condition based on a value of a field in a row in the relational database;

processing the database operation to produce a database operation result, wherein processing the database operation includes:

creating the auditing records for selected rows in the relational database accessed by the database operation, wherein the selected rows satisfy the auditing condition,

recording the audit record in an audit record store; and

returning the database operation result;

wherein selectively auditing the access involves automatically modifying the database operation prior to processing the database operation;

wherein processing the database operation causes an audit record to be created and recorded only for rows in relational tables accessed by the database operation and satisfying an auditing condition;

wherein satisfying the auditing condition allows selective auditing of the database operation and not for other rows;

wherein satisfying the auditing condition allows selective auditing of the database operation;

wherein if the database operation includes a select statement, inserting a case statement into the select statement calling a function causing the audit record to be created and recorded if the auditing condition is satisfied; and

wherein if inserting the case statement into the database operation further comprises inserting the case statement into the database operation:

allowing a database operation processor to allocate buffer for the database operation,

removing the case statement from the database operation,

allowing the database operation processor to generate a database operation plan for the database operation, and

scheduling the case statement near the end of the database operation plan to ensure the case statement is evaluated only after other conditions of the database operation are satisfied, so the auditing record is created only for rows actually accessed by the database operation."—

Please replace claim 29 with;--"29. A computer-readable storage medium storing instructions to be executed by a computer to cause the computer to perform a method for selectively auditing accesses to a relational database, the method comprising:

receiving a database operation for the relational database;

selectively auditing an access to the relational database based on an auditing condition, wherein the auditing condition specifies a condition based on a value of a field in a row in the relational database;

processing the database operation to produce a database operation result, wherein processing the database operation includes:

creating the auditing records for selected rows in the relational database accessed by the database operation, wherein the selected rows satisfy the auditing condition,

recording the audit record in an audit record store;

returning the database operation result;

wherein selectively auditing the access involves automatically modifying the database operation prior to processing the database operation;

wherein processing the database operation causes an audit record to be created and recorded only for rows in relational tables accessed by the database operation and satisfying an auditing condition;

wherein satisfying the auditing condition allows selective auditing of the database operation and not for other rows;

wherein satisfying the auditing condition allows selective auditing of the database operation;

wherein if the database operation includes a select statement, inserting a case statement into the select statement calling a function causing the audit record to be created and recorded if the auditing condition is satisfied; and

wherein if inserting the case statement into the database operation further comprises inserting the case statement into the database operation:

allowing a database operation processor to allocate buffer for the database operation,

removing the case statement from the database operation,

allowing the database operation processor to generate a database operation plan for the database operation, and

scheduling the case statement near the end of the database operation plan to ensure the case statement is evaluated only after other conditions of the database operation are satisfied, so the auditing record is created only for rows actually accessed by the database operation."--

Please replace claim 32 with;--"32. An apparatus for selectively auditing accesses to a relational database, comprising:

a receiving mechanism configured to receive a database operation for the relational database;

a selective auditing mechanism configured to selectively audit an access to the relational database based on an auditing condition, wherein the auditing condition specifies a condition based on a value of a field in a row in the relational database;

a processing mechanism configured to process the database operation to produce a database operation result;

a creating mechanism configured to create the auditing records for selected rows in the relational database accessed by the database operation, wherein the selected rows satisfy the auditing condition,

a recording mechanism configured to record the audit record in an audit record store;

a returning mechanism configured to return the database operation result;

wherein selectively auditing the access involves automatically modifying the database operation prior to processing the database operation;

wherein processing the database operation causes an audit record to be created and recorded only for rows in relational tables accessed by the database operation and satisfying an auditing condition;

wherein satisfying the auditing condition allows selective auditing of the database operation and not for other rows;

wherein satisfying the auditing condition allows selective auditing of the database operation;

wherein if the database operation includes a select statement, inserting a case statement into the select statement calling a function causing the audit record to be created and recorded if the auditing condition is satisfied; and

wherein if inserting the case statement into the database operation further comprises inserting the case statement into the database operation:

allowing a database operation processor to allocate buffer for the database operation,

removing the case statement from the database operation,

allowing the database operation processor to generate a database operation plan for the database operation, and

scheduling the case statement near the end of the database operation plan to ensure the case statement is evaluated only after other conditions of the database operation are satisfied, so the auditing record is created only for rows actually accessed by the database operation."—

Allowable Subject Matter

3. Claims 1, 3, 5, 7-9, 11-13, 15-17, 19-21, 23-26, 28, 31-32 and 34 allowed over the prior art made of record.

In claim 1, none of the prior art made of record neither teach or suggest "selectively auditing an access to the relational database, wherein selectively auditing the access involves automatically modifying the query prior to processing the query, wherein processing the query causes an audit record to be created and recorded only for rows in relational tables accessed by the query and satisfy an auditing condition, wherein satisfying the auditing condition allows selective auditing of the query and not for other rows, wherein the auditing condition specifies a condition based on a value of a field in a row in the relational database, and wherein satisfying the auditing condition allows selective auditing of the query, wherein if the query includes a select statement, inserting a case statement into the select statement calling a function causing the audit record to be created and recorded if the auditing condition is satisfied, wherein inserting the case statement into the query further comprises: inserting the case statement into the query, allowing a query processor to allocate buffer for the query, removing the case statement from the query, allowing the query processor to generate a query plan for the query, and scheduling the case statement near the end of the query plan to ensure the case statement is evaluated only after other conditions of the query are satisfied, so the auditing record is created only for rows actually accessed by the query" and in conjunction with "receiving a query for the relational database; processing the modified query to produce a query result, wherein processing the modified query includes, creating the auditing records for rows in relational tables accessed by the query and satisfying the auditing condition, and recording the audit record in an audit record store; and returning the query result."

Claims 3, 5 and 7-8 are depended on claim 1; therefore, they are rejected under the same reason as to claim 1.

Claim 9 is a computer-readable medium for performing the method recited in claim 1; therefore it is allowed under the same reason as claim 1.

Claims 11-13 and 15-16 are depended on claim 9; therefore they are allowed under the same reason as to claim 9.

Claim 17 is an apparatus for performing the method of claim 1; therefore, it is allowed under the same reason as to claim 1.

Claims 19-21 and 23-25 are depended on claim 17; therefore, they are rejected under the same reason as to claim 17.

Claim 26 is the method share the same scope as to claim 1; therefore it is allowed same season as to claim 1.

Claim 28 is depended on claim 1, therefore, it is allowed under the same reason as to claim 26.

Claim 29 is the computer-readable medium for performing the method recited in claim 26; therefore, they are allowed under the same reason as to claim 26.

Claim 31 is depended on claim 29; therefore, it is allowed under the same reason as to claim 29.

Claim 32 is the apparatus for performing the method recited in claim 26; therefore, they are rejected under the same reason as to claim 31.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Related US. Patent

Lohman et al.	(US. Patent No. 6,092,062)	Patent date: 07/18/2000.
Beavin et al.	(US. Patent No. 5,940,819)	Patent date: 08/17/1999.
Leung et al.	(US. Patent No. 5,864,840)	Patent date: 06/26/1999.
Jou et al.	(US. Patent No. 5,882,750)	Patent date: 10/13/1998.

NPL

Kenneth A. Ross. Conjuntive selection condition in main memory, (Synposium of Principles of Database System, year 2002, page 109-120.

Beneveventano et al. Description logics for semantic query optimization in object-oriented database systems. ACM transaction on Database System (TODS), year 2003, page 1-50.

Llirbat et al. Eliminating costly redundant computations from SQL trigger executions. International Conference on Management of Data, year 1997, pages 428-439.

Barry Lewis. Rules for Co-Existence of P-P and P-MP system using different access methods in the same frequency band: ESTI TM4 Work Item DTR/TM04069. Year 04/26/2000.

Elder et al. Minutes: TC-10 Subcommittee on ADCs. year 09/30/1999 - 10/01-1999.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is at 571-272-4041 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at 571-272-4107.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

(571) –273-8300 [Official Communication]

BQ To

Sept 05, 2005

JEAN M. CORRIELUS
PRIMARY EXAMINER